Abstract Of The Invention

Sine magnification error in a multi-aperture telescope or other optical system is corrected by placing an optical element in the optical path near an intermediate image of the telescope. The optical element has substantially no power, and in a reflective embodiment, has a plano-surface and a corrective surface. The corrective surface is defined by a rotationally symmetric polynomial of the general form

$$z = \frac{cy^2}{1+\sqrt{1-(k+1)c^2y^2}} + Dy^4 + Ey^6 + Fy^8 + Gy^{10}$$

where z is the departure from a plane, and y is the radial coordinate on the surface, D, E, F, G, C and K are parameters which are varied during the design process to minimize the sine magnification error, and represent aspheric coefficients, c is a vertex curvature and k is a conic constant.